November 30, 2001

General Guidance for Surveys in Hall C During GEn Experiment

The purpose of this document is to clarify the requirements for radiation surveys in Hall C when the polarizing target magnet is energized. The attached photos should help reinforce the description that follows.

Specific Requirements:

1. Only the Teletector 6112B "yellow jacket" instrument (or alternative approved by RCG) may be used for this purpose.
2. Do not attempt to obtain a contact dose rate on the target chamber or on beamline within 1 foot of the chamber.
3. This survey is acceptable for a "full survey" of the hall. However, if the Whole Body dose rate at the target chamber is greater than 2 mR/hr, the RCG shall be contacted prior to allowing direct, hands-on access to the target chamber (i.e. for Restricted Access).

General Practice:

***Remember to notify the Hall C shift leader of the entry when you get to the Counting House.**

- Survey other areas of the hall using the standard protocol: Whole Body dose rates along entire upstream and downstream beamline; obtain contact dose rates when the Whole Body dose rate exceeds 2 mR/hr; survey any Radiation Area/High Radiation Area boundaries to verify placement; show maximum Whole Body and contact dose rate in Radiation Areas.

- Enter the outer fence boundary (right hand side of HMS), and survey the area under the target pivot and HMS platform.

- Access the target control platform. Extend the detector through the plastic fence and do a WB survey of the accessible part of the beamline and target chamber. Do not extend the probe beyond the point that you can see it.

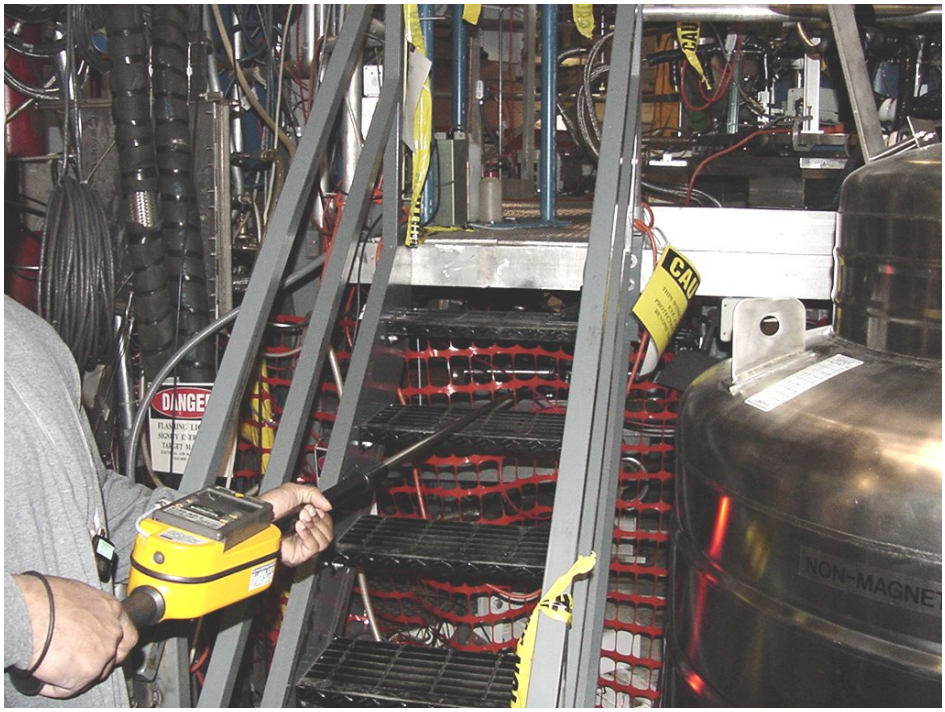
- Climb the stairs to the upper platform, and survey the platform area. You should be able to do an adequate survey of the area without having to climb under the instrumentation cabling by extending the detector.

- The downstream exit tubing should be checked along its entire length from the floor beneath the tube.

- From inside the GEn detector hut, make a check of dose rates in the lower level under the target area. Then go to the upper deck of the hut, and complete the Whole Body survey of the target. From this location, you can extend the detector and check the target chamber/exit tube interface, the side of the target, and the upstream interface. Again, there is no need for contact dose rates here.

General area survey under pivot area
Typical dose rate ~ 0.2 mR/hr

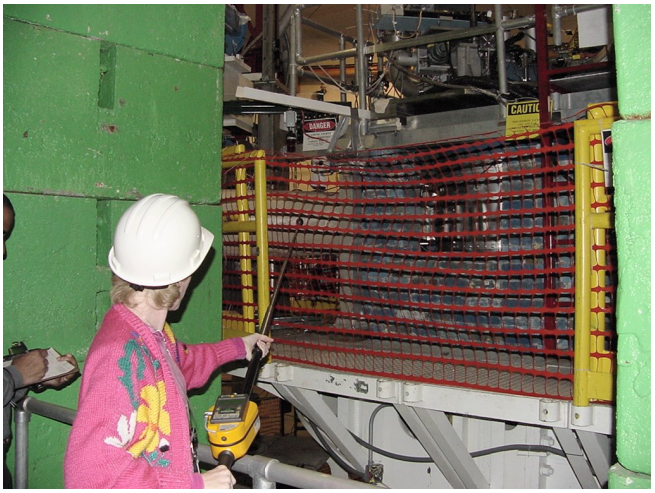
Survey around HMS deck and pivot from below
Typical dose rate ~0.4 mR/hr

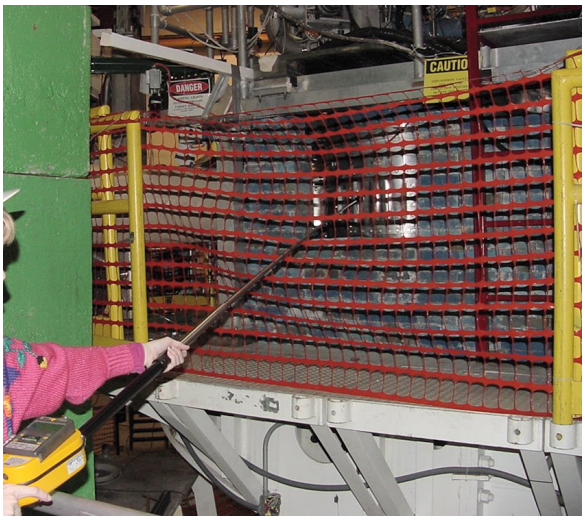


From the target/cryo control platform, extend probe through fence for Whole Body survey of upstream beamline and target chamber
Typical dose rate ~ 0.4 mR/hr

From the upper target platform, survey entire upper platform area. This can be done without passing under the cables from the target to the rack.
Typical dose rate ~0.2 mR/hr

From the floor downstream of the target, do a Whole Body survey of the exit beamline
Typical dose rate here is normally < 1 mR/hr





From the GEn detector hut upper level, do a Whole Body survey of the area around the chamber exit, the exit beamline, and the lower target platform around the target chamber
Typical maximum dose rate here is ~ 1.5 mR/hr.